

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented): A printed wiring board comprising n conductive layers and n insulating layers, wherein said n conductive layers and said n insulating layers are interleaved wherein the conductive layers are electrically connected to one another via first and second through holes, wherein n is an odd number;

wherein a first of said conductive layers is a layer on which an electronic component is to be mounted with leads for electric currents in and out of the electronic component; an n -th one of said conductive layers is an external connecting layer for connecting external connecting terminals which conduct electric currents in and out of the printed wiring board; a second to an $(n-1)$ -th ones of said conductive layers are current transmitting layers for transmitting internal currents of the printed wiring board; each of a first to an $(n-1)$ -th ones of said insulating layers, except for the $(n+1)/2$ -th insulating layer, has at least one of the first through holes with a plating film formed on a wall thereof to connect the conductive layers; and a surface of the n -th conductive layer is covered with an n -th and outermost one of the insulating layers wherein a central $((n+1)/2)$ -th insulating layer has the second through holes, each of the second through holes having a plating film formed on a wall thereof, said plating film extending to the ones of the conductive layers adjacent the central insulating layer and connecting to a first through hole, whereby warping is prevented from occurring in the printed wiring board.

2. (Original) The printing wiring board according to Claim 1, wherein the external connecting terminals are solder balls.

3. (Previously Presented) A method of manufacturing a printed wiring board having an odd number n of conductive layers interleaved with n insulating layers and are electrically connected to one another by first, second, and third interconnecting through holes, wherein a central $((n+1)/2$ -th) insulating layer has the second through holes, and each of the second through holes has a plating film formed on a wall thereof, said plating film extending to the ones of the conductive layers adjacent the central insulating layer, the method comprising the steps of:

interposing the insulating layers between a second to an n -th conductive layer and forming the first interconnecting through holes for electrically connecting the conductive layers to one another;

laminating a first prepreg and a copper foil on a surface of the second conductive layer, laminating a second prepreg on a surface of the n -th conductive layer, and simultaneously press-bonding the first and second prepreps, the copper foil, the second to n -th conductive layers, and the insulating layers to form a multilayer substrate having n insulating layers, wherein the second to n -th conductive layers are internal layers of the multilayer substrate;

etching the copper foil to form a first conductive layer;

forming the third interconnecting through holes in a first insulating layer and forming connecting holes in an n -th insulating layer respectively;

forming a metal plating film on the walls of the third interconnecting through holes of the first insulating layer for electrically connecting the first conductive layer with a second conductive layer and

connecting external connecting terminals to a surface of the n-th conductive layer exposed through the first connecting through holes of the n-th insulating layer.

4-14. (Cancelled)

15. (Previously Presented) A printed wiring board comprising:

an insulating substrate having at least one interconnecting through hole penetrating the insulating substrate and having a first opening and a second opening;

an annular pad disposed along a peripheral edge of the first opening of the interconnecting through hole so as not to cover the first opening;

a covering pad covering the second opening of the interconnecting through hole;

a conductor circuit connecting an electronic component with the covering pad;

a metal plating film electrically connecting the annular pad and the covering pad, the metal plating film covering a wall of the interconnecting through hole and the bottom of the interconnecting through hole defined by the covering pad such that the metal plating film has a flat surface at the wall and the bottom of the interconnecting through hole; and

a solder ball for external connection bonded to the annular pad at a position offset from the interconnecting through hole.

16-17. (Cancelled)

18. (Previously presented) The printed wiring board according to claim 15, wherein the surface of the insulating substrate is covered with a solder resist.

19-20. (Cancelled)

21. (Previously Presented) The printed wiring board according to claim 1, wherein each of the insulating layers is formed of one of epoxy resins, phenol resins, polyimide resins, polybutadiene resins, and fluororesins.

22-24. (Cancelled)

25. (Previously Presented) The method according to claim 3, wherein each of the insulating layers is formed of one of epoxy resins, phenol resins, polyimide resins, polybutadiene resins, and fluororesins.

26-27. (Cancelled)

28. (Previously Presented) The printed wiring board according to claim 15, wherein the solder ball is located in alignment with the interconnecting through hole.

29. (Previously Presented) The printed wiring board according to claim 15, wherein the solder ball is located at a position offset from the interconnecting through hole.

30-31. (Cancelled)